

Validation of the LATCH breastfeeding assessment instrument for the Portuguese language

Validação para língua portuguesa do instrumento de avaliação do aleitamento materno LATCH

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Descritores

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Abstract

Objective: To translate into Portuguese and validate the LATCH breastfeeding assessment scale.

Methods: This was a methodological study through translation and validation of the instrument. The following steps were followed: translation, back-translation, committee of judges, pre-test and validation. The validation process includes the analysis of 160 women in breastfeeding in the first postpartum days during hospitalization.

Results: The results indicate that the LATCH instrument translated into Portuguese can be used by nurses for breastfeeding assessment, enabling the early detection of possible problems presented by the mother-baby binomial during breastfeeding.

Conclusion: The study fulfilled the objective of adapting the LATCH breastfeeding assessment instrument to the Portuguese language and verifying its psychometric properties. The LATCH instrument validity measures what it was designed to do and is applicable in clinical practice.

Resumo

Objetivo: Traduzir para a língua portuguesa e validar a escala de avaliação da amamentação LATCH.

Métodos: Tratou-se de um estudo do tipo metodológico, por meio da tradução e validação de instrumento. Seguiu-se as etapas estabelecidas: tradução, *back-translation*, comitê de juízes, pré-teste e validação. O processo de validação inclui a análise de 160 mamadas de mulheres nos primeiros dias pós-parto, durante a internação hospitalar.

Resultados: Os resultados obtidos indicam que o instrumento LATCH traduzido para o português pode ser utilizado na avaliação do aleitamento materno pelo profissional enfermeiro, possibilitando a detecção precoce de possíveis problemas apresentados pelo binômio mãe-bebê durante a amamentação.

Conclusão: O estudo cumpriu o objetivo de adaptar para a língua portuguesa e verificar as propriedades psicométricas do instrumento de avaliação de aleitamento materno LATCH. A validade do instrumento LATCH mede o que foi concebido para medir, sendo ele aplicável na prática clínica.

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Introduction

Breastfeeding is the most effective way to feed children, since it addresses the nutritional, immunological and psychological aspects, and protects them from various health risks.^(1,2) In addition, breastfeeding potentially reduces child mortality by 13 per cent, especially in children aged under five years for preventable causes of death.⁽³⁾ Thus, the World Health Organization recommends the exclusive breastfeeding (EB) of children up to six months of life and up to two years old or more, concomitant with the introduction of complete feeding from six months of age.⁽⁴⁾

Despite the recommendation and the various benefits that breastfeeding offers, EB indices in Brazil and worldwide are still far from the recommended.⁽⁵⁾ According to the latest national study, the duration of EB was only 54 days and the mean time of breastfeeding was 342 days.⁽⁶⁾

There are several reasons for abandonment of exclusive and prolonged breastfeeding, among which the difficulties in management of breastfeeding stand out because women and children need to adapt and learn the process.^(7,8)

Among the actions to encourage and support breastfeeding, the importance of health professionals is key, as they assist mother/children in the first breastfeeding soon after delivery and perform their follow-up in the maternity ward. Therefore, the strategy of breastfeeding observation is fundamental in the sense of identifying problems presented by the pair, especially in this initial phase.⁽⁹⁾

Guidance for the adequate breastfeeding technique provided in the maternity ward may reduce incidence of women with difficulties, such as prevention of nipple injury⁽⁸⁾ and complaints of low milk production.⁽¹⁰⁾ Thus, the use of breastfeeding assessment tools can be useful to systematize professionals' evaluation, document the performed evaluation and offer continuity of the care intervention process in breastfeeding.⁽⁹⁾

Among the tools available in the literature that help to evaluate the performance of the nursing mother and the baby during breastfeed-

ing, we highlight the LATCH Scoring System, which is highly researched, probably because of its practicality.⁽¹¹⁻¹⁸⁾

The tool was elaborated in 1994 in the USA by a nurse called Deborah Jensen⁽¹²⁾ and her group with the objective to document the assessment of breastfeeding during individual sessions in a systematic manner.

Each letter of the acronym LATCH represents a characteristic: L (Latch) refers to the quality of the child's latch in the breast; A (Audible swallowing) refers to the amount of audible swallowing noted while nursing the baby; T (Type of nipple) evaluates the type of nipple; C (Comfort) refers to the mother's comfort level in relation to the breast and nipple; and H (Hold) refers to whether or not the mother needs help in positioning the child.⁽¹²⁾ Each of the five components of breastfeeding assessment receives a numerical score ranging from 0 to 2, representing the same form of the Apgar Report for a maximum score of 10 points.⁽¹²⁾ The tool was published in English⁽¹²⁾ and validated in Spain,⁽¹⁶⁾ Italy⁽¹⁷⁾ and Turkey.⁽¹⁸⁾ To date, there is no record of a validation to the Portuguese language, limiting its use in Brazil.^(11,16)

In view of the above, the aim of the study was to translate into Portuguese and validate the LATCH breastfeeding assessment scale.

Methods

This is a methodological study through translation and validation of the instrument. The study respected the stages of cross-cultural adaptation and clinical validation:

Stage 1 followed the phases: translation of the instrument, back-translation, committee of judges and pre-test by specialists. The original instrument was translated from English to Portuguese by two experienced translators in the health area. The translation was performed independently, generating versions T1 and T2, which were later discussed among professionals to obtain a single instrument in Portuguese identified as T12.

Version T12 was submitted to the back-translation process, in which two independent and experienced translators born in English speaking countries (official language) translated version T12 again into English without receiving information of the original instrument. The process generated two versions of the instrument, called B1 and B2, and subsequently reaching consensus in version B12.

Next, was formed a committee of judges by seven breastfeeding specialist professionals by the International Board Lactation Consultant Examiners (IBLCE). These professionals also demonstrated at least five years of experience in breastfeeding and/or education and proficiency in English. The following participated of the committee: three nurses, three neonatologists and a speech therapist. The professionals were invited to participate in the study, the objective of the study was clarified, and they signed the informed consent form.

Once the committee was formed, the judges analyzed the sentences according to established criteria (0 = undecided, 1 = equivalent, and -1 = not equivalent) for the technical review and evaluation of semantic, idiomatic, conceptual and cultural equivalence of the versions. The evaluation of items was performed through the equivalence scale and calculated by the Content Validity Index (CVI).⁽¹⁹⁾ Items with equivalence below 0.80 were reviewed by translators.

After defining the final version of the instrument in Portuguese, came the pre-test phase. The instrument version was presented to 30 specialist nurses in the area of breastfeeding to evaluate content comprehension. Professionals were asked to answer an adapted verbal-numerical scale using a five-point Likert score, and express their doubts and observations. With these results, was reached the final version of the LATCH instrument in Portuguese.

The analyzes of concordance among judges and specialist nurses of the pre-test were performed using the Gwet's AC2 coefficient, considering ordinal weights and 95% confidence intervals.

In Stage 2 of the instrument validation process, 160 breast feeds were evaluated simultaneously to verify reproducibility and reliability of the instrument.

All women who gave birth in the maternity ward of a private tertiary hospital in the city of São Paulo between August and December 2015 were considered for the evaluation of breastfeeding. Those who felt uncomfortable by the presence of two professionals during data collection, who did not express desire to breastfeed and whose children were hospitalized in the Neonatal Intensive Care Unit were excluded from the study. All participants received guidance regarding the study and signed the informed consent form. A single breastfeeding was evaluated in each woman, totaling 160 women evaluated.

The estimate of 158 breast feeds was made to evaluate the reproducibility of the instrument. Sample calculation was estimated with the main objective of obtaining 0.1 (10%) accuracy in a 95% confidence interval for the intraclass correlation coefficient. The calculation of intraclass correlation coefficient and construction of the Bland-Altman graph were used to evaluate the instrument reproducibility, and the calculation of Cronbach's alpha coefficient was used to evaluate its reliability.

The study was submitted to the Research Ethics Committee of the Hospital Israelita Albert Einstein and approved under number 985.148 and CAAE number 40522214.3.0000.007 according to resolution number 466 of 12/12/2012 of the National Health Council. Authorization for translation, cross-cultural adaptation and validation was obtained through electronic contact with the author of the LATCH scale, Deborah Jensen, and version B12 was subsequently revised and approved by her too.

Results

After the stage of instrument translation, when comparing the original version with the back translation version (B12), translators identified some divergences: eleven words presented the same result in the Portuguese translation and in the retranslation used to translate the English term: 'reluctant' ("relutante" (reluctant) and "hesitante" (hesitating)), 'sustained' ("manter" (maintain) and "sustentar"(-

sustain)), ‘grasps’ (“*pega*” (latches) and “*agarra*” (grabs)), ‘breast’ (“*mama*” (mamma) and “*peito*” (breast)), ‘lips flanged’ (“*lábios curvados para fora*” (lips curved out) and “*lábios voltados para fora*” (lips facing out)), ‘a few’ (“*um pouco*” (a little) and “*alguma*” (some)), ‘everted’ (“*evertido*” (everted) and “*protruso*” (prominent)), ‘blisters’ (“*vesículas*” (vesicle) and “*bolhas*” (blisters)), ‘bruises’ (“*equimoses*” (bruises) and “*ferimentos*” (injuries)), ‘non-tender’ (“*não doloridas*” (non-painful) and “*não dolorosas*” (non-painful)) and ‘staff’ (“*equipe*” (team) and “*funcionário*” (employee)). The terms selected in this consensus were those considered more significant based on publications about breastfeeding available in the literature^(20,21) (Chart 1).

For the evaluation of the reproducibility and reliability of the translated LACTH scale from the judges’ committee, the instrument was divided into 21 sentences. The content equivalence index (CVI) of the sentences was higher than 0.90, corresponding to 60% of the judges’ evaluations, as well as the general index (CVI), which was 0.91 and evaluated the set of evaluation of the 21 sentences.

Four sentences related to the terms “*agarra a mama*” (grabs the breast), “*dolorosa*” (painful), “*posicionamento*” (positioning) and “*equipe*” (team) presented a CVI below 0.80, corresponding to 20% of the judges’ evaluations.

In total, each judge made 84 evaluations, considering the 21 sentences according to each of the four components. In relation to concordance between their evaluations, the Gwett’s AC 2 concordance coefficient was 0.93 (95% CI 0.91 - 0.96), indicating excellent concordance among judges.

Regarding the comprehension evaluation of each instrument item by the 30 specialist nurses, were obtained high indexes (CVI), the majority was equal to or greater than 0.93. Professionals reported a perfect understanding of items without any doubts in the whole instrument. Nurses participating in the study were aged between 29 and 52 years, median of 14 years of profession and 9 years of work in the institution where the study was performed.

Regarding validity and fidelity, the final version of the instrument was submitted to concomitant evaluation of two nurses called A and B.

The sample consisted of 160 women aged 34 years on average, 95.6% had higher education level, 52.5% were primigravidae, 71.2% had a caesarean section, and 81.3% had no history of breast surgery. Regarding children’s profile, 55% were males, mean birth weight was 3,297 grams, medians of gestational age were 39 weeks and Apgar 9/10; and 45% of them were on the first day of life.

Each woman was submitted to a breastfeeding evaluation, totaling 160 breast feeds observed, and

Chart 1. Description of the LACTH final version in Portuguese

	0	1	2	Totais
L				
Pega	Muito sonolento ou relutante Não consegue sustentar a pega ou sucção	Tentativas repetidas para sustentar a pega ou sucção Segura o mamilo na boca Estimular para sugar	Agarra a mama Língua abaixada Lábios curvados para fora Sucção rítmica	
A				
Deglutição audível	Nenhuma	Um pouco, com estímulo	Espontânea e intermitente (<24 horas de vida) Espontânea e frequente (>24 horas de vida)	
T				
Tipo de mamilo	Invertido	Plano	Protruso (Após estimulação)	
C				
Conforto (Mama/mamilo)	Ingurgitada Com fissura, sangrando, grandes vesículas ou equimoses Desconforto Severo	Cheia Avermelhado/ pequenas vesículas ou equimoses Desconforto suave/moderado	Macias Não dolorosas	
H				
Colo (Posicionamento)	Ajuda completa (Equipe segura o bebê à mama)	Ajuda mínima (por exemplo, elevar a cabeça na cabeceira da cama, colocar travesseiros para apoio) Ensinar a mãe em uma mama, depois ela faz no outro lado Equipe segura o bebê, depois a mãe assume	Sem ajuda da equipe Mãe capaz de posicionar e segurar o bebê	

average duration of 25 minutes per evaluation. For observer A, the Cronbach's alpha coefficient was 0.25, and for observer B it was 0.32. These values are considered low, and show the use of a global score is not the most appropriate to evaluate this information. Therefore, the importance of the particularity of each instrument item is evident.

The heterogeneity of this sample could lead to less reliability hence the choice to analyze the group of women submitted to cesarean delivery, and in which the breastfeeding evaluation was done on the first day of life. The overall Cronbach's alpha had a slight increase for this group; for evaluator A it was 0.35, and for evaluator B it was 0.40.

Regarding the concordance between evaluations and considering LATCH total scores, was found a 0.96 intraclass correlation coefficient between observers, indicating excellent concordance between both. The Bland-Altman graph demonstrates no trend in the evaluations performed. The bar graph illustrates the differences between calculated scores, and shows that 89% of differences between each observer assessment of the same breastfeeding were equal to zero. This means the majority of LATCH total score values were coincident (Figure 1).

In relation to concordance between observers in each scale item, all coefficients indicate that concordance was excellent, with 95% confidence (Table 1).

Table 1. Concordance coefficients (AC2) between the evaluators for each item of the LATCH scale (n = 160)

Concordance coefficients	AC2	LL	UL
Pega (latch)	1.00	0.99	1.00
Deglutição audível (audible swallowing)	0.95	0.93	0.98
Tipo de mamilo (type of nipple)	1.00	1.00	1.00
Conforto (comfort)	0.99	0.98	1.00
Posicionamento (hold)	0.99	0.97	1.00

LL= lower limit; UL= upper limit; *95% confidence interval

Discussion

The LATCH scale has been used worldwide as a tool to assist mothers and guide health professionals about breastfeeding. The use of a breastfeeding assessment instrument enables to record and track the evolution of identified difficulties, facilitating the evaluation process of health professionals working in the area.

The American Academy of Pediatrics recommends that professionals who advise mothers on breastfeeding should fully evaluate breastfeeding during hospital stay using the LATCH scale as a standard for health institutions with the aim to implement breastfeeding recommendations based on evidence.⁽²²⁾

Since LATCH is a structured breastfeeding assessment tool, its systematic use can help with the identification of mother and child difficulties and who need additional support or referral to reference services in breastfeeding.⁽²²⁾

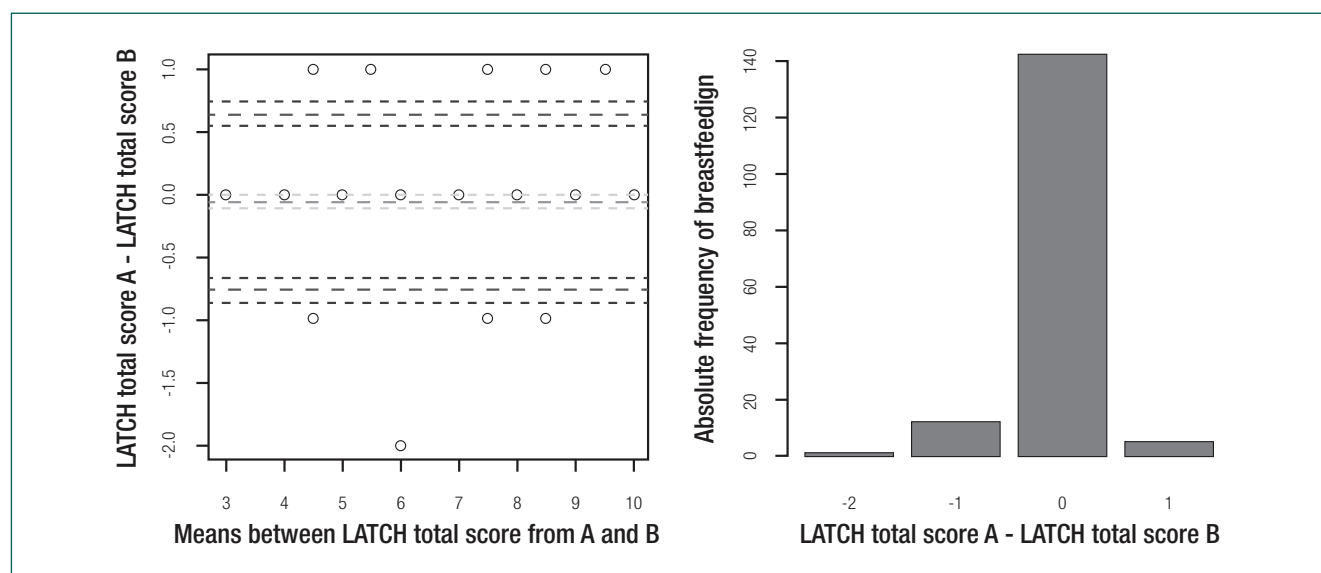


Figure 1. Bland-Altman graph (I) and bar graph (II) for the total score obtained by evaluators A and B (n = 160)

Using the instrument that was studied to evaluate the effect of orientation in the breastfeeding process between mothers of low birth weight infants during maternity stay allowed to identify that support increases levels of maternal efficacy and rates of prolonged exclusive breastfeeding.⁽²³⁾ Another recent study comparing LATCH with a known self-efficacy instrument - short version (BSES-SF) demonstrated a positive correlation between instruments in postpartum women.⁽²⁴⁾

Therefore, the relevance of the present study is being the first to perform the scale cultural adaptation in South America, which will impact positively on its use by the Brazilian population given its benefits, mainly in relation to its practicality. This was confirmed during the LATCH scale application in clinical practice by nurses of this study.

The concordance between judges regarding the equivalence between the original and translated instrument proved to be excellent. The selection of IBCLC professionals considered breastfeeding consultants was important because they have the necessary skills, knowledge and attitudes to intervene effectively in the breastfeeding process, and are accredited by an international institution.⁽²⁵⁾

The relative independence between the various components of LATCH, except for “*Pega*” (Latch) and “*Deglutição audível*” (Audible swallowing), suggests to measure separately the components in this tool for breastfeeding assessment. “*Pega*” (Latch) and “*Deglutição Audível*” (Audible swallowing) could be combined in a single variable because they overlap. Another disadvantage was observed with regard to the “*Deglutição audível*” (Audible swallowing) item, because audible swallowing is time dependent and not feasible until the third or fourth postpartum day, when the breast milk volume is produced in greater quantity compared to colostrum.^(14,25) Nonetheless, concordance was greater than 85% for each of the five components of LATCH, supporting the instrument reliability as an effective tool for breastfeeding assessment by practitioners.

The general index (CVI) considering all items evaluated by specialist nurses in the pre-test stage indicated an excellent content validity.⁽¹⁹⁾ The concordance coefficient of Gwet’s AC2 represented

excellent concordance between the experts in their instrument evaluations.

The internal consistency of LATCH presented low values of Cronbach’s alpha coefficient for both evaluators, demonstrating the use of a global score is not the most indicated to evaluate this information. However, checking the particularities of each instrument item is crucial. As the instrument is very objective, individual evaluation of each component of the acronym is recommended for a more reliable breastfeeding assessment when using the scale in Portuguese.

Regarding concordance between the observer nurses for the other instrument items, the index was excellent. Considering the total LATCH scores, the intraclass correlation coefficient was very high between observers, indicating excellent concordance between the two specialists who assessed the breast feeds. This fact demonstrates that completing the LATCH instrument showed a consistent result with reality without distortions or dubious interpretations.

The results obtained in this study indicate the LATCH instrument translated into Portuguese can be used by nurses in assessment of breastfeeding, enabling the early detection of possible problems presented by the mother-baby binomial during breastfeeding. Thus, it provides important subsidies for individualized orientation about the breastfeeding protocol, with emphasis on the difficulties of each binomial, contributing to the successful breastfeeding process.

Conclusion

The cross-cultural adaptation and validation process of the Portuguese version of the LATCH scale resulted in an adapted instrument, the LATCH Scale - Brazilian version. It has proven to be appropriate for use in clinical practice by professionals in the area. As the instrument is easy to visualize, nurses can quickly identify the items of their intervention, contributing significantly to the successful breastfeeding practice. The LATCH scale translated and adapted to Portuguese, like the original version,

should be used considering individual items for a more reliable assessment of the breastfeeding process, rather than seeking a total score of all items. Thus, the instrument fulfills its intended purpose of early detection of difficulties related to breastfeeding in an attempt to reduce early weaning rates.

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Collaborations

Conceição CM, Coca KP, Alves MRS and Almeida FA declare they have collaborated with conception of the study, analysis and interpretation of data, article writing, critical review of the intellectual content and approval of the final version to be published.

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